

UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL RESEARCH SERVICE  
NORTHERN UTILIZATION RESEARCH BRANCH  
PEORIA, ILLINOIS

October 25, 1954

Dr. Joshua Lederberg  
Department of Genetics  
The University of Wisconsin  
Madison 6, Wisconsin

Dear Dr. Lederberg:

I am glad to have your letter of October 18 and to know that you are interested in studying some species of Hansenula and some of the species of Saccharomyces which we intend to place in a separate genus, to be designated as Dekkeromyces. I hope they may serve the particular purposes you have in mind.

We are sending you the following strains of Hansenula:

NRRL Y-1683, diploid H. subpelliculosa  
" Y-1822, " " "  
" Y-1822-12 and Y-1683-11. These are mating types  
of opposite sex.  
" Y-366, a unisexual diploid of H. anomala  
" Y-2153, a bisexual " " "  
" Y-366-8 and Y-2153-4, mating types of opposite sex

I would suggest heating sporulated cultures of Hansenula at 57° C. for isolation of mating types.

We are sending you a culture of Zygosaccharomyces ashbyi NRRL Y-1598. It is a latent lactose fermenter, requiring about 8 days to ferment. It hybridizes readily with other lactose and nonlactose fermenting species which will be placed, with it, in Dekkeromyces.

None of the diploid species which will be placed in Dekkeromyces are heterothallic, so I cannot send you mating types, but I am sending you mating types of Saccharomyces lactis, a heterothallic haploid. Strains NRRL Y-1140 and Y-1205 are typical of the species, including ability to ferment lactose rapidly. They are of opposite sexes. I am also sending you strains of S. lactis which do not ferment lactose. Strain Y-1134 assimilates neither lactose or galactose, and mates with Y-1140. Y-230 does not assimilate lactose but it assimilates and ferments galactose; it mates with Y-1140 and Y-1134. Strains Y-1140 and Y-1205 are known to hybridize with Y-1598, and probably the lactose-negative strains of S. lactis would mate with Y-1598. We have hybrids of S. lactis x Z. ashbyi which Dr. Rotman is welcome to.

2-Dr. Joshua Lederberg-10/25/54

I am sending you reprints on the occurrence of yeast mating types in nature which deals briefly with S. lactis, and one on the isolation of mating types from diploid heterothallic species of Hansenula.

We are sending a short manuscript on hybridization of yeasts which will be placed in a separate genus, Dekkeromyces, at a later date. It has not been published yet, and I would appreciate it if you would return it within the next month. I am now preparing two rather lengthy papers on hybridization of S. lactis, S. fragilis, Z. dobzhanskii and Z. ashbyi. If you are interested in seeing them, they should be sufficiently advanced in a couple of months to send copies to you.

Sincerely yours,

A handwritten signature in cursive script, appearing to read 'Wick', is written in dark ink.

Lynferd J. Wickerham, Zymologist  
Fermentation Section

Enclosures 3